

AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A mobile phone charger for charging a battery of a mobile phone ~~with a prescribed voltage~~, comprising:

a charging current generator ~~for generating a charging current to charge the battery of the mobile phone upon receiving an input current, and~~ selectively generating the a charging current upon receiving a charging initiation signal; and

a sterilizer being ~~driven~~ powered by the charging current ~~received from the charging current generator, and the sterilizer~~ sterilizing the battery and the mobile phone upon a change of charging mode from one of a pre-charge mode, a constant current mode, and a constant voltage mode to an other at predetermined time intervals.

2. (Original) The mobile phone charger as set forth in claim 1, wherein the sterilizer executes a sterilization function for sterilizing the mobile phone and the battery while a charging function for charging the battery with the charging current is executed, and terminates the sterilization function when the charging function is terminated.

3. (Currently Amended) The mobile phone charger as set forth in claim 1, wherein the charging current generator outputs different charging currents according to ~~[[a]]~~the charging mode, and the sterilizer repeatedly executes and terminates the sterilization function according to the charging mode.

4. (Currently Amended) The mobile phone charger as set forth in claim 3, wherein the charging mode is ~~set to any one in sequence of~~ in sequence of ~~[[a]]~~the pre-charge mode, ~~[[a]]~~the constant current mode, and ~~[[a]]~~the constant voltage mode.

5. (Original) The mobile phone charger as set forth in claim 4, wherein the sterilizer executes the sterilization function for a predetermined time whenever the charging mode changes to another mode.

6. (Currently Amended) The mobile phone charger as set forth in claim ~~[[1]]~~2, wherein the sterilizer generates different wavelengths from among several wavelengths within a predetermined range during the sterilization function.

7. (Original) The mobile phone charger as set forth in claim 1, wherein the sterilizer is one of an infrared sterilizer and an ultraviolet sterilizer.

8. (Currently Amended) A method for sterilizing a mobile phone and a battery using a mobile phone charger, comprising the steps of:

a) generating a charging current ~~to charge a battery of the mobile phone~~ upon receiving an input current;

b) determining whether ~~the mobile phone is mounted to~~ a charging connector is mounted by at least one of the battery and the mobile phone, the charging connector transferring the charging current to the at least one of the battery and the mobile phone; and

c) when the charging connector is mounted if the mobile phone is mounted to the charging connector, sterilizing the at least one of the battery and the mobile phone at predetermined time intervals by a sterilizer being powered by the charging current, the sterilizer sterilizing the at least one of the battery and the mobile phone upon a change of charging mode from one of a pre-charge mode, a constant current mode, and a constant voltage mode to an other, using the charging current.

9. (Currently Amended) The method as set forth in claim 8, wherein step (c) includes the steps of:

c1) checking a voltage value charged in the at least one of the battery ~~[[of]]~~and the mobile phone mounted to the charging connector;

c2) comparing the checked voltage value with a predetermined voltage value;

c3) if the checked voltage value is lower than the predetermined voltage value, transmitting the charging current to the at least one of the battery and the mobile phone mounted to the charging connector; and

c4) charging the at least one of the battery and the mobile phone with the charging current, and sterilizing the at least one of the battery and the mobile phone.

10. (Currently Amended) The method as set forth in claim 9, wherein step (c2) includes the steps of:

c2-1) if the checked voltage value is higher than the predetermined voltage value, terminating the charging current applied to the at least one of the battery and the mobile phone; and

c2-2) if the charging current is terminated, terminating charging the at least one of the battery ~~[[of]]~~and the mobile phone and at the same time terminating sterilization of the at least one of the battery and the mobile phone.

11. (Currently Amended) The method as set forth in claim 8, wherein step (a) includes the steps of:

a1) outputting different charging currents according to ~~[[a]]~~the charging mode; and

a2) repeatedly executing and terminating the sterilization function of the sterilizer according to the charging mode.

12. (Currently Amended) The method as set forth in claim 11, wherein the charging mode is ~~set to any one in sequence of~~ [[a]]the pre-charge mode, [[a]]the constant current mode, and [[a]]the constant voltage mode.

13. (Original) The method as set forth in claim 12, wherein step (c) includes the step of executing the sterilization function for a predetermined time whenever the charging mode is changed.

14. (Currently Amended) The method as set forth in claim 8, wherein step (c) includes the step of sterilizing the at least one of the battery and the mobile phone using one of an infrared sterilization process and an ultraviolet sterilization process.

15. (Currently Amended) A mobile phone charger for charging a battery of a mobile phone ~~with a prescribed voltage~~, comprising:

a charging current generator for generating a charging current ~~to charge the battery of the mobile phone upon receiving an input current, and providing the mobile phone with the charging current;~~

a charging connector connected to the mobile phone receiving the charging current, and the charging connector receiving charging status information from the mobile phone; and

a sterilizer for generating a wavelength signal corresponding to the charging current after the mobile phone is mounted to the charging connector, and the sterilizer being powered by the charging current and sterilizing the mobile phone mounted to the charging connector upon a change of charging mode from one of a pre-charge mode, a constant current mode, and a constant voltage mode to an other at predetermined time intervals.

16. (Original) The mobile phone charger as set forth in claim 15, wherein the sterilizer executes a sterilization function of the mobile phone if it is determined that the battery of the mobile phone is being charged with the charging current on the basis of the charging status information.

17. (Currently Amended) The mobile phone charger as set forth in claim ~~[[15]]~~16, wherein the charging current generator provides the mobile phone with different charging currents according to ~~[[a]]~~the charging mode, and the sterilizer repeatedly executes and terminates the sterilization function according to the charging mode.

18. (Currently Amended) The mobile phone charger as set forth in claim 17, wherein the charging mode is ~~set to any one in sequence of~~ ~~[[a]]~~the pre-charge mode, ~~[[a]]~~the constant current mode, and ~~[[a]]~~the constant voltage mode.

19. (Original) The mobile phone charger as set forth in claim 18, wherein the sterilizer executes the sterilization function for a predetermined time whenever the charging mode is changed.

20. (Currently Amended) The mobile phone charger as set forth in claim 15, wherein the sterilizer generates different wavelengths from among wavelengths within a predetermined range upon receiving the charging current, and executing the sterilization function of the sterilizer.

21. (Original) The mobile phone charger as set forth in claim 15, wherein the sterilizer is one of an infrared sterilizer and an ultraviolet sterilizer.

22. (Currently Amended) A method for sterilizing a mobile phone using a mobile phone charger with a sterilization function for sterilizing the mobile phone and a battery of the mobile phone, comprising the steps of:

a) determining if the mobile phone is mounted to the mobile phone charger, and if so, providing the mobile phone with a charging current;

b) determining whether the mobile phone receives charging status information indicative of a charging function active/inactive state of the battery;

c) if the mobile phone receives the charging status information, determining whether a voltage value contained in the charging status information remains at a logic high state or a logic low state; and

d) if the voltage value remains at a logic high state, executing a sterilization function of the mobile phone, the sterilization function being executed by a sterilizer being powered by the charging current, the sterilizer sterilizing the mobile phone upon a change of charging mode from one of a pre-charge mode, a constant current mode, and a constant voltage mode to an other.

23. (Original) The method as set forth in claim 22, further comprising the step of:

e) if the voltage value remains at a logic low state, terminating the sterilization function of the mobile phone.

24. (Original) The method as set forth in claim 22, wherein the sterilization function is repeatedly executed at predetermined time intervals.

25. (Original) The method as set forth in claim 22, wherein the sterilization function is executed by generating different wavelengths from among wavelengths within a predetermined range.

26. (Original) The method as set forth in claim 22, wherein the sterilization function uses one of an infrared sterilization process and an ultraviolet sterilization process to sterilize the mobile phone.

27. (Currently Amended) The method as set forth in claim 22, wherein:

step (a) includes the step of generating different charging currents according to ~~[[a]]the~~ charging mode; and

step (d) includes the step of repeatedly executing and terminating the sterilization function according to the charging mode.

28. (Currently Amended) The method as set forth in claim 27, wherein the charging mode is ~~set to any one in sequence~~ of ~~[[a]]the~~ pre-charge mode, ~~[[a]]the~~ constant current mode, and ~~[[a]]the~~ constant voltage mode.

29. (Original) The method as set forth in claim 28, wherein step (d) includes the step of executing the sterilization function for a predetermined time whenever the charging mode is changed.